

ABSTRACT OF THE DISCLOSURE

[0084] In an optical system measuring sample characteristics, by reducing the amount of ambient absorbing gas or gases and moisture present in at least a portion of the illumination and detection paths experienced by vacuum ultraviolet (VUV) radiation used in the measurement process, the attenuation of such wavelength components can be reduced. Such reduction can be accomplished by a process without requiring the evacuation of all gases and moisture from the measurement system. In one embodiment, the reduction can be accomplished by displacing at least some of the absorbing gas(es) and moisture present in at least a portion of the measuring paths so as to reduce the attenuation of VUV radiation. In this manner, the sample does not need to be placed in a vacuum, thereby enhancing system throughput.